

ADVANCED WINDOWS

INTRODUCTION

Taking control of your network can be a pain if all your PCs run as standalone computers. Sharing printers and common folders can be tricky, particularly if the PC that hosts them is often switched off. And as each PC is managed individually, basic admin and maintenance tasks often involve making a tedious round of all the PCs in your office.

If your network is too large to administer on an ad hoc basis, you need some form of central control. One answer is to install a server, which is a computer that provides services to the PCs on the network. With a server you can centrally control which PCs and users have access to different resources. You can install software on many PCs remotely and simultaneously, and you can make sure that all your important documents are available to everyone who needs them, all the time.

In this article we look at one of the best server operating systems on the market, Windows Small Business Server 2003 (SBS 2003). We cover its main features and explain how they work and how to set them up.

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Setting up a network server

Maintaining an entire company's PCs is unbelievably time-consuming if you don't have a network server. **Karl Wright** eases the administrator's burden with Windows Server 2003

When you bought your first work PC, you probably noticed an instant improvement in your company's productivity. Everyday tasks such as writing letters and updating your accounts could be done quicker. Keeping records up to date and finding the right record fast was much easier, and communication with customers was instantaneous.

Fast-forward a few years to a time when your firm has accumulated several PCs, and there's a good chance that things look rather different. Instead of finding the document you need instantly, all too often you realise that you've forgotten which PC it's saved on, or you know where it is but the person who uses that PC is off for the day and you don't know their password.

If you're prepared to invest some time and effort into learning how to use and install a server, you can reduce the time you spend administering your IT resources. A server can make your company network (or even your home network, if you have enough PCs to make it worthwhile) more secure, make sharing resources easier and provide your PCs and users with the resources they need to be more efficient and to make a better impression on your customers.

In this article, we look at the Windows Small Business Server 2003 operating system. As its name suggests, the package is specifically designed for small businesses. We'll look at how your business can benefit from its main features and how to get the best from them. For this article we used the Standard Edition of Windows Small Business Server 2003, which costs around £400 from most retailers.

MINDING YOUR OWN BUSINESS

The main component of Windows Small Business Server is the Windows Server 2003 operating system. Superficially, this looks and behaves very much like

Windows XP running in classic mode, but without the blue and green Fisher Price look. If you're the company techie and are used to installing, maintaining and repairing Windows XP, you'll have no problem finding your way around those aspects of Windows Server 2003 that apply to the local machine.

You will find the operating system's network administration features less familiar, though. If you haven't used them before, learning about them will require a little time and patience. The main network admin feature is called Active Directory. Accessed through a number of different tools, Active Directory is a logical framework that contains objects describing every resource and every user on your network. Using the Group Policy Management and Group Policy Object consoles, you can define exactly what level of access and control, or 'rights', each user has over every single resource in your network.

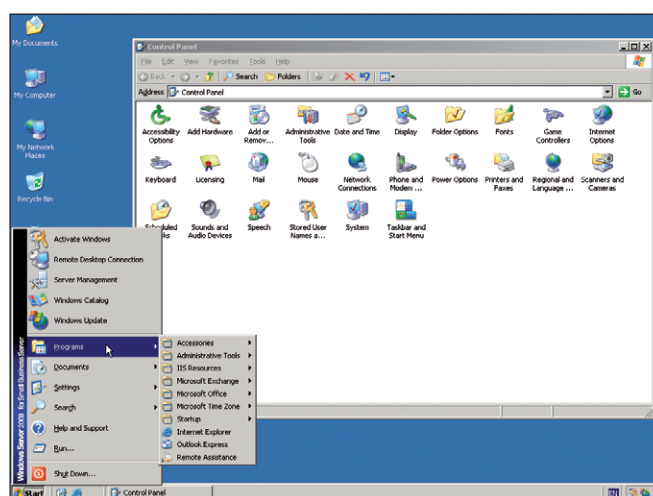
You may, for instance, wish to allow some users to access the colour printer, while others must use the black and white one, or you could create a network share folder to which only some users can connect. You can do lots of other useful things with Active Directory. For instance, you can install software on many machines at once without ever having to leave your desk. You can automate and control the update process of each PC's operating system, and even remotely control, configure and repair client PCs on the network.

FAIR EXCHANGE

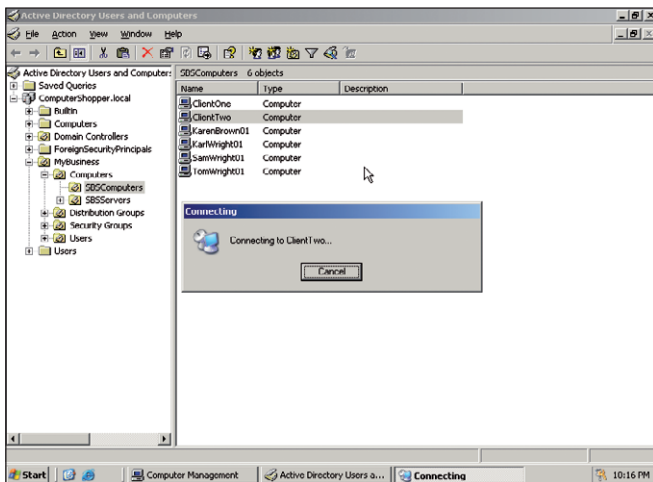
Describing Windows Small Business Server as an operating system is actually an understatement. The package also includes several other tools, some of them fully fledged products in their own right, that Microsoft thinks a small business will need. These include SharePoint Services (Microsoft's tool for creating your own intranet and sharing data across the company), a shared fax service, an indexing service and sophisticated remote connection tools.

Undoubtedly the most important product after the operating system itself is Exchange. Microsoft refers to Exchange as a "mission critical communications tool". Basically it's an application that provides information for Outlook, allowing your organisation to run its own email server, share calendars, contacts, resource booking lists and so on. It also gives users remote access to their email, either through mobile devices such as handhelds or using a web interface that can be accessed from any compatible web browser.

At this point, you may be thinking that creating a server-based network sounds like far too much trouble, and should be left to large enterprises that



▲ Anyone who's used Windows XP will feel instantly at home with Windows Server 2003. There is no need to learn a whole new interface before you start getting to grips with network admin



▲ Using the new remote control add-in you can now choose to take over and control a client PC remotely from within Active Directory

have dedicated, highly trained IT staff. This isn't the case, although you certainly need to think ahead and do your research before installing a server in your network. Windows Server 2003 is not something you can learn by trial and error alone; it would be far too costly to your business.

With a little preparation and some patience, however, any experienced PC user will be able to master Small Business Server. On this page, we look at the ins and outs of the setup process – and find that it really isn't that complicated.

INSTALLING WINDOWS SMALL BUSINESS SERVER

Set aside at least half a day to install SBS 2003. We tested the package on an AMD 64 system with 1GB of RAM, started installing at ten in the morning and didn't finish until around three in the afternoon. The install routine is almost identical to that of Windows XP, however, so experienced Windows users won't find it difficult. The good thing is that all the components you are likely to require, including Active Directory and Exchange, are installed automatically.

Don't forget that you will also need to set time aside to configure your clients to talk to your new server. How long this takes depends on exactly what you want to do, how smoothly the whole thing runs and how many clients you have. Realistically, you should probably

set aside another half a day to configure a handful of clients.

MASTER OF YOUR DOMAIN

A network administered by a server running a Microsoft server operating system is called a domain. The server itself is the domain controller. During the installation of the server you are asked to give your domain a name. This usually looks a bit like a web address but, instead of ending in a

suffix such as .com or .net, it will end in .local.

You'll use your domain name when connecting client PCs and when configuring many settings, so choose something simple, sensible and meaningful. We've chosen ComputerShopper.local.

When the installation finishes, Windows Server 2003 presents you with a To-do list. It's worth working your way through this list before you do anything else. Some of the items may not be relevant to you – if your server doesn't have a modem, for example, you won't be able to use the shared fax service. However, you must complete most of the items on the list if your Windows Server is to be used for the tasks it was designed to perform. At the very least you should run the Connect to the Internet, Activate Your Server and Add Users and Computers wizards.

The Activate Your Server wizard does just what you'd expect it to, registering the installation with Microsoft. The same could be said for the Connect to the Internet wizard, but it's a little more complicated and is therefore worth some attention. The wizard doesn't only establish your network connections; it also allows you to specify such things as which network card to use for your internet connection, which DNS servers to use when trying to connect to systems on the internet, the SMTP server you want Exchange to use and so on.

Rush through this wizard and you will probably spend hours repenting.

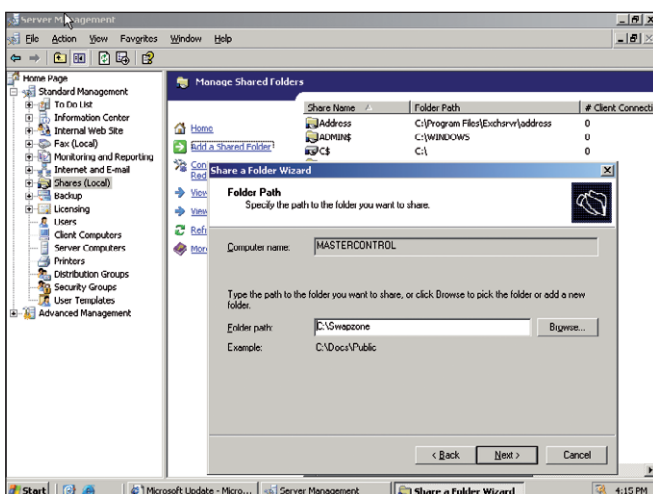
Before you can add any client PCs to your domain, you'll need to create entries for them and for the relevant users in Active Directory. There are two ways of doing this. You can open the Active Directory Users and Computers console from the Start menu and add these entries manually. To add a computer, expand the My Business tree, expand Computers, click on SBS Computers, right-click in the right-hand pane, select New from the context menu and complete the new computer wizard. To add a user, click on the container called Users and run through the same steps. However, it's far simpler just to click on the Add Users and Computers entry in the To-do list. The wizard this launches is easier to use than those in Active Directory.

There are also two ways to add a client PC to your new domain. To do this manually, boot the client, right-click My Computer, choose Properties, go to the Computer name tab and click on Change. Under Member of, select Domain and enter the name of your domain, minus the 'local' suffix. You'll be prompted to enter a valid domain administrator username and password, the PC will restart and that's it – it's on the domain and can be administered from the server. There is, however, a much easier way.

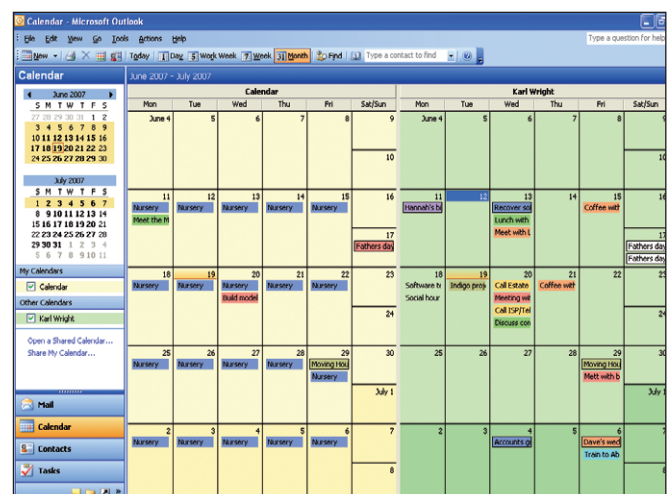
Each time you finish the Add Users and Computers wizard, it tells you to go to the machine for which you've just configured an account and enter the string `servername/ConnectComputer` into the web browser. This launches the computer connection wizard that allows you not only to add your client to the domain quickly and effortlessly, but also to install pre-assigned software from the server to the client automatically. One word of warning, though. Before you attempt to connect your client to the server, make sure the client is set to use the server as its DNS server, otherwise you'll spend ages scratching your head and grinding your teeth wondering why the ConnectComputer wizard doesn't work.

Five licences for client PCs are included in the SBS 2003 licence. When you've used these up you'll have to buy a licence for each client you connect to the server, at around £50 per licence.

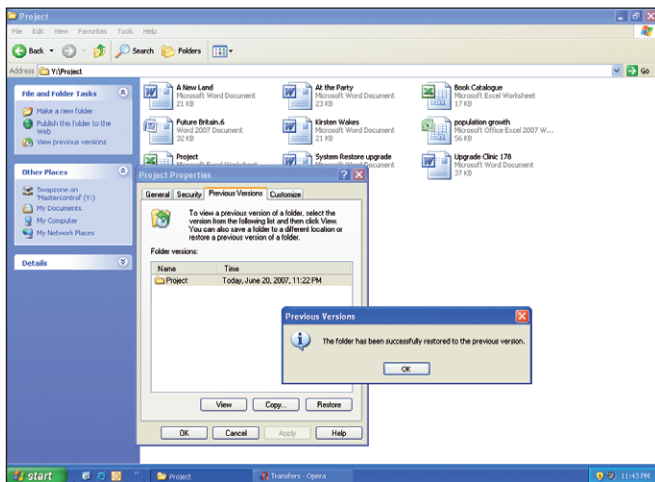
As you can see, setting up your server and building your domain isn't that difficult at all.



▲ With a network share you can be sure that your important documents are always available to those who need them. Whatever you do, though, make sure you configure Share and Security permissions properly



▲ Exchange can be tricky to set up, but it gives your employees access to shared calendars and contact lists, resource booking tools, webmail that they can access from anywhere, anti-spam filters and other sophisticated features



▲ Volume Shadow Copy is an effective way of providing your users with backup facilities – and it's so easy to use that they can't possibly get confused and pester you for support

Most of the important steps are covered by easy-to-use wizards and, even if you choose to set things up manually, it's really not that difficult. Our only caveat is that you must do your research: enter the wrong settings at the start and you will spend ages trying to undo them, because they appear in so many places throughout the interface. Below and in the How To... (opposite) we'll show you how to perform some basic administrative tasks in Windows Server.

Active Directory has a fearsome reputation, and not without good reason. There are so many settings, and so many different ways to configure the resources on your network, that it's all too easy to overlook an important setting and then spend ages tearing your hair out, wondering why you're not getting the effect you want. However, the basic principles behind Active Directory are relatively simple, and if you tread carefully, it's surprisingly easy to get good results, allowing you to take complete control of your network.

SHARE AND SHARE ALIKE

As well as applying user and security policies centrally, making your network safer and saving administration time, the other thing a server enables you to do is to create network shares and finely control access to them. Having finance data on one machine, customer letters on another and order details on a third (and hoping that the right combination of machines has access) is not an efficient way to work. By placing all documents in shared folders on the server, you ensure that everyone who needs them can access them at any time.

Creating a network share is easy. From the Start menu, go to All Programs, Administrative Tools, Server Management. Click on Add a Shared Folder and follow the wizard through to its conclusion. Once the shared folder has been created, find it on the server, right-click it and check to see which users are listed on the Share Permissions and Security tabs. Customise these lists until only those users who should have access remain.

In the bottom pane of both tabs, you can set the level of access that's appropriate to each user. You may want to give some users full control but others read-only access. Make sure there are no conflicts between the permission on the Share tab and those on the Security tab,

otherwise the Security tab will trump Share Permissions and some of your users will not have proper access to the folder.

So far we've concentrated on the operating system's own features. Now we'll look at some of the added software, and at some of the cool add-ins, that are also included in Microsoft Small Business Server 2003.

YOU'VE GOT MAIL

Until now, we've stressed that configuring and using Windows Small Business Server is probably easier than you think. That's almost certainly not true of Exchange, unless you already expect it to be a really fiddly, aggravating job. Here we have used it to connect to a simple POP3/SMTP account, and that was tough. On the bright side, once you've mastered the program, it provides you with sophisticated communication tools such as shared calendaring, contacts and so on.

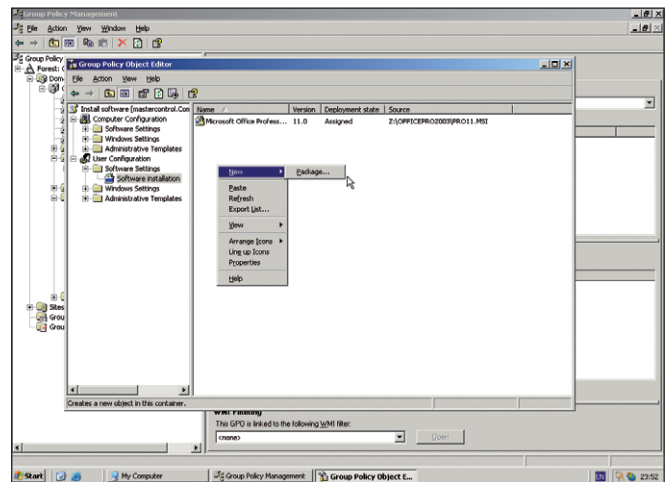
In one respect Exchange is easy to configure. Microsoft Outlook is included as part of your server installation, and the first time a new client PC connects to the server, Outlook is automatically installed on that client and the relevant user's mailbox is preconfigured. This only takes care of the connection between the client and the Exchange server, however. The real work is connecting Exchange to the internet.

In larger organisations, Exchange connects directly to whatever DNS server your organisation uses to resolve external domain names. For this to work, your organisation needs its own Fully Qualified Domain Name (FQDN; for instance, www.computershopper.com).

EXPERT TIP

Don't assume that all your company's current software will work with your new server operating systems. Every program's installation routine checks which operating system it is being installed on, usually for compatibility reasons. Many manufacturers, however, deliberately prevent desktop programs installing on servers.

This is because they have invested time and money in creating a server version of the same software, usually with advanced features and always at a higher price. Any security software you have, including anti-virus programs, will probably not work on your server, and nor will utilities such as disk partitioning, backup and imaging software.



▲ Using Group Policy you can push software packages out to entire groups of client PCs. The software will then install the next time the user logs on, saving you time and shoe leather

co.uk). You then need to provide your ISP with your FQDN and your server's IP address so that email can be routed directly to your email server. Alternatively you can provide the external address of your router and then configure the router to forward all email traffic to your mail server.

However, as explaining how to set this up would require an article in its own right, we've taken the 'easy' option of connecting Exchange to an existing POP3 and SMTP mail account hosted by an ISP. By doing this you can continue to use your current mail accounts, while still having access to Exchange's other features, such as the calendar and shared contacts.

If you just configure Exchange to use an ISP's servers, however, it won't work. To get things running properly you need to change the ports the server listens on, add the external mail addresses to the recipient policies and prevent mail being sent from the local domain name.

OTHER KEY FEATURES

As well as making it easier and more efficient to manage and administer your PCs and other IT resources, SBS 2003 also helps you protect your critical data using a tool called Volume Shadow Copy. Using this you can back up the contents of network shares easily and make your backups available to users. To enable the program, right-click on the partition or drive containing your network share and choose Properties. Click on the tab Shadow Copies, make sure the service is enabled (it should be by default). Click on Settings and tell the service how often it should back up your data, then click OK.

Next, still on the server, navigate to C:\Windows\System32\Clients\Twclient\X86. Copy and paste the program you find there to a shared folder and run it on your client PCs. The next time your clients log on, they will be able to recover backups of their files simply by clicking on an empty space inside the network folder, choosing Properties, clicking on Previous Versions and then choosing a version to restore.

Of course, copying the Volume Shadow Copy client to each client and installing it manually would be extremely tedious. Fortunately, using the Group Policy Management console and Group Object Editor it is possible to install software on many machines at once without ever getting up from your chair.

Other features of SBS 2003 include an indexing service to help you find your documents quickly. SharePoint Services make it possible to share office documents on internal, custom-made websites for different departments and project teams, or even for the whole business. There's also a very good remote control service that allows you to access a PC over the network

as if you were sitting at it. This isn't just good for troubleshooting clients; it's also a handy way of accessing the server if you don't have a monitor or keyboard attached to it.

MASTERS AND SERVERS

Hopefully by now we've convinced you that installing a server will make your organisation

more efficient, reducing the time spent on IT admin and providing services that were, until recently, the preserve of enterprises. What's more, using Windows Small Business Server isn't as intimidating as you might think. You don't have to be an IT professional – just someone with patience, dedication and an understanding of how PCs and Windows work. **ES**

HOW TO... Apply group policy

The group policy is the main tool for managing the users, PCs and other objects in your domain. Using the Group Policy Management and Group Object Editor consoles, you can specify precisely how a given user, or more usually a group of users, can interact with any resource on the network. In the following walkthrough we show you how to create a group policy object, apply policies to it and then link it to a group of users, thereby determining which settings those users can change on their workstations.

1 On the server go to the Start menu and open the Group Policy Management console from the Administrative Tools folder. In the console, click on the plus sign next to the name of your 'forest'. A forest is a group of domains, and if you have only one domain, the forest will automatically take the name you gave that domain. Within the forest, expand your domain and right-click Group Policy Objects. Select New from the context menu.

Give the new object a meaningful name. We want to define how normal users in the finance department can interact with their PCs, so we've called it Finance User Settings.

2 Right-click the new Group Policy Object and choose Edit. This opens the Group Policy Editor, which allows you to edit the settings of the object you just created (or any other object, for that matter). In the left-hand pane, under User Configuration, click Administrative Templates. Here you'll find all the customised settings you can apply to each user and to each PC on your network. Each entry in the right-hand pane is a setting that you can configure to be either enabled or disabled. You might, for instance, choose to enable the setting that stops users even opening Add/Remove Programs in the Control Panel of their workstation.

3 Close the Group Policy Object Editor and any changes you have made are saved

automatically. Now we need to link the Group Policy Object (GPO) we've created with the users to whom we want it to apply. It is possible to link an Object to a single user account, but we recommend against it. If you configure your domain this way, it will become a confusing mess. We want to link our Object to the Users group in the Finance department. To do this we open the Group Policy Management console again, select the Object, drag it to the group in question and release it.

4 The new policies you have just applied will affect users only after they have logged off and then on again. Your users will then find they can interact with their PC only in the ways you have specified. If at any time you wish to change the policies you've applied, you can edit the GPO or completely break the link between the GPO and the user group to which you have applied it. If you delete the GPO altogether, the settings it defined are removed from the users in question.

